8

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/677,637 | 10/02/2003 | Elmar Mause | MAUSE | 4164 |

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| EXAMINER |  |
|---|---|
| PATEL, VISHAL A |  |
| ART UNIT | PAPER NUMBER |
| 3676 |  |

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | | | |
|---|---|---|---|
| ***Office Action Summary*** | **Application No.**<br>10/677,637 | **Applicant(s)**<br>MAUSE ET AL. | |
| | **Examiner**<br>Vishal Patel | **Art Unit**<br>3676 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --***

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *04 March 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *2-4,6-11,13,15-26,30,31 and 37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,12,14,27-29 and 32-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5, 27-29, 32-33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colanzi et al (US. 4,874,261) and Yokoyama et al (US. 2003/0127803) and in further view of Peisker (US. 3,929,340).

Colanzi disclose a lip-type shaft seal (lip-type shaft seal of Colanzi) for sealingly separating pressure compartments, in particular for sealing two components movable relative to one another (intended use). The lip-type shaft seal comprising a seal body (body below 15) defining a symmetry axis and made of elastic material (the seal 1 is made of elastic material). The seal body having a first radial sealing lip (lip that capable of contacting an axial wall of member 2) for placement in a pocket (pocket formed by the component 2) and terminating in a second axial sealing lip (axial lip that contacts radial wall of 2). The radial sealing lip having a sealing edge (edge that contacts the axial wall of the member 2) and bearing against a rotating component (the member 2 is rotating), which extends in a direction of the symmetry axis. The axial sealing lip having a sealing edge, which, in installed state, rests against a contact surface oriented radially to the symmetry axis (intended use but the axial sealing lip is capable of contacting a contact surface oriented radially to the symmetry axis). A spring element (spring element on lips) for urging the sealing edge of the radial sealing lip against the rotating component. A reinforcing element (15) integrated in a radial sealing portion (portion 13 on reinforcing element 15) of the seal body so as to be embraced by one side of the sealing portion. The axial sealing lip extends at an angle in relation to the symmetry axis (angle between the axial sealing lip and the axial wall of 2), *when the axial sealing lip has not been installed yet and is under no tension (intended use).* The axial sealing lip extends from the sealing edge (edge that contacts the axial wall of 2) of the radial sealing lip at a length amount. The axial sealing lip rests against the contact surface at an axial overlap of 0.05 to 0.55 mm, when being installed (intended use, but the contact overlap of the axial sealing lip is capable of being 0.05 to 0.55 mm by forcing the member 2 further towards balls 8). The axial sealing lip has a wall thickness, which tapers from the sealing edge of the radial lip from an amount **X** to an amount that is less than **X** (see figures). The lip-type shaft seal is made of elastomer.

A groove (groove holding a garter spring) holding the spring has a diameter and the spring has a diameter. A ratio exist between the diameter of the pocket and the diameter of the spring. The lip-type shaft seal is used in a rolling bearing. The shaft seal *for use as seal for a rolling contact bearing in a water circulating pump of an internal combustion engine (intended use but the rolling bearing of Colanzi is capable of being used in a water pump of an internal combustion engine)* and the sealing edge of the radial seal body is supported directly on the rotating component (2).

Colanzi discloses the invention substantially as claimed above but fails to disclose that the elastic material has a shore A hardness of ≤ 75 and the seal be made of HNBR. Yokoyama discloses a sealing lip made of an elastic material having a shore A hardness of ≤ 75 and of HNBR. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the have the hardness A of Colanzi to be ≤ 75 and the material be HNBR as taught by Yokoyama, to provide sufficient strength and longer life for the lip seal (see paragraph 0064 and 0065 of Yokoyama).

Colanzi and Yokoyama disclose the invention substantially as claimed above but fail to disclose that the angle of to be ≥ 35 degrees. Peisker disclose a sealing lip have an axial lip (lip having surface 28) and a radial lip (lip having surface 24) and the axial lip having an angle ≥ 35 degrees (column 6, lines 10-17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the angle of Colanzi and Yokoyama to be ≥ 35 degrees as taught by Peisker, as way of example (column 6, line 17 of Peisker) or to provide a sufficient seal (column 1, lines 14-24 of Peisker).

Colanzi, Yokoyama and Peisker disclose the claimed invention except that the length to be ≥ 1.4. Discovering an optimum range of a result effective variable involves only routine skill in the art. In re Kulling, 895 F.2d 1147, 14 USPQ 2d 1056. Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the length be ≥ 1.4 as a matter of design choice. Furthermore evidence is shown by Ohnuki that to have a lip (19a) with certain length that is larger than 1.4 mm is know since bearings gaps are about 6-5 to 9-5 mm (see claim 2 of Ohnuki).

Regarding claim 5:

Colanzi, Yokoyama and Peisker disclose the claimed invention except that the taper is defined by a thickness of ≥ 0.9mm to ≥ 0.2mm. Discovering an optimum range of a result effective variable involves only routine skill in the art. In re Kulling, 895 F.2d 1147, 14 USPQ 2d 1056. Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the taper be defined by a thickness of ≥ 0.9mm to ≥ 0.2mm as a matter of design choice.

Regarding claims 27:

Colanzi, Yokoyama and Peisker disclose the claimed invention except that the ratio of the diameter of the pocket and the diameter of the spring is ≥ 1.1. Discovering an optimum range of a result effective variable involves only routine skill in the art. In re Kulling, 895 F.2d 1147, 14 USPQ 2d 1056. Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the ratio be ≥ 1.1 as a matter of design choice.

Regarding claims 28-29:

Colanzi, Yokoyama and Peisker disclose the claimed invention except that the diameter of the spring is ≤ 1.3mm or 1.1mm. Discovering an optimum range of a result effective variable involves only routine skill in the art. In re Kulling, 895 F.2d 1147, 14 USPQ 2d 1056. Without the showing of some unexpected result. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the diameter of the spring be ≤ 1.3mm or 1.1mm as a matter of design choice.

3. Claim 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colanzi, Yokoyama and Peisker as applied to claim 1 above, and further in view of Sassi (US. 6,789,805).

Colanzi, Yokoyama and Peisker disclose the invention substantially as claimed above but fail to disclose that the edge of the axial sealing lip has a textured. Sassi discloses a seal having an axial lip portion (15) contacting a radial flange (8) and an radial lip portion (21) contacting an axial flange (6). The axial lip portion having an end having texture (17) that contacts the radial flange. It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the edge of Colanzi, Yokoyama and Peisker to have a texture as taught by Sassi, to provide fluid return (column 3, lines 1-3).

4. Claims 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colanzi, Yokoyama and Peisker as applied to claim 1 above, and further in view of Burgmann et al (US. 3,973,779).

Colanzi, Yokoyama and Peisker disclose the invention substantially as claimed above but fail to disclose that the seal body is made of fluorocarbon rubber such as FPM and FKM. Burgmann discloses a lip seal (10a) having a body, the lip seal being made of NBR or FKM. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the seal body of Colanzi, Yokoyama and Peisker to be formed by FKM as taught by Burgmann, since NBR or FKM are considered to be art equivalent material.

### *Response to Arguments*

5. Applicant's arguments filed 3/4/05 have been fully considered but they are not persuasive.

The declaration is fully considered, however is unpersuasive. The affidavit submitted by Elmar Mause on 3/4/05 has been reviewed. However, there does not appear to be any nexus between any facts, presented in the affidavit, alleging commercial success and the claimed invention. For example, no comparative data has been presented with respect to the original market place or current market trends. i.e. is it successful because pricing, marking or etc?

Applicants' argument that the optimum range rejection is improper is not persuasive. Applicant has not discussed any criticality relating to this specific range. Further, Ohnuki shows evidence that it is know to use a lip member that has a length greater or equal to 1.4mm. In that the gap between 8 and 2 is 6.5 mm to 9.5mm, therefore the lip would have a length of greater than or equal to 1.4mm.

Applicants' argument that Colanzi fails to teach the axial sealing lip to have an angle of greater or equal to 35 degrees is not persuasive because as showed in Peisker the surface 28 of the axial lip is at an angle greater or equal to 35 degrees.

Applicants argument that Yokoyama is non-analogous art is not persuasive because as pointed out by the applicant that the art is used in bearing seals which would constitute as sealing a rotating member relative to a stationary member and furthermore Yokoyama teaches that using an elastic material having a shore A hardness of $\leq$ 75 provides sufficient strength and longer life for the lip seal (see paragraph 0064 and 0065 of Yokoyama).

Applicants' argues that Peisker is nonanalogous art is not persuasive because it is in the field of applicant's endeavor, meaning shaft seal assembly and furthermore Peisker teaches to have an angle greater or equal to 35 degrees to provide a sufficient seal (column 1, lines 14-24 of Peisker).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### *Conclusion*

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford, can be reached on (703) 308-2978.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168.

Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

**or faxed to**: 703-872-9326, for formal communications for entry before Final action: or,
703-872-9327, for formal communications for entry after Final action.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive, Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP
May 6, 2005

Alison Pickard
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